

AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Previously Presented) A multilayer ceramic component comprising:

a stack comprising ceramic layers and electrode layers interspersed among the ceramic layers, the electrode layers containing copper, the electrode layers comprising first and second internal electrodes; and

first and second external contacts on different sides of the stack, the first and second external contacts containing copper, the first and second external contacts being substantially perpendicular to the ceramic layers and electrode layers;

wherein the first internal electrode is connected to the first external contact and the second internal electrode is connected to the second external contact, the first and second internal electrodes overlapping each other at a plane intersecting the stack;

wherein in areas adjacent to boundaries between the first and second external contacts and the ceramic layers, the first and second external contacts are not oxidized and material comprising the ceramic layers is not diminished; and

wherein a bonding strength of the external contacts to the stack exceeds 50N.

2. (Previously Presented) The multilayer ceramic component of claim 1, wherein the first and second external contacts contain a ceramic.

3. (Previously Presented) The multilayer ceramic component of claim 1, wherein the first and second internal electrodes contain a ceramic.

4. (Previously Presented) The multilayer ceramic component of claim 2, wherein the ceramic comprises less than or equal to 50 m% of each of the first and second external contacts.

5. (Previously Presented) The multilayer ceramic component of claim 4, wherein the ceramic comprises between 10 m% and 50 m% of each of the first and second external contacts.

6. (Previously Presented) The multilayer ceramic component of claim 2, wherein the ceramic comprises ceramic particles having an average grain size of between 0.2  $\mu\text{m}$  and 0.6  $\mu\text{m}$ .

7. (Previously Presented) The multilayer ceramic component of claim 1, comprising ceramic green films that contain a thermohydrolytically degradable binding agent.

8. (Previously Presented) The multilayer ceramic component of claim 1, wherein the ceramic layers comprise a ferroelectric perovskite ceramic having a general composition of  $ABO_3$ .

9. (Previously Presented) The multilayer ceramic component of claim 8, wherein the perovskite ceramic is of a PZT type  $Pb(Zr_xTi_{1-x})O_3$ ; and wherein  $1 \geq x \geq 0$ .

10. (Previously Presented) The multilayer ceramic component of claim 1, wherein a thickness of each of the first and second external contacts is between 10  $\mu m$  and 20  $\mu m$ .

11. (Previously Presented) A method for producing a multilayer ceramic component, the multilayer ceramic component comprising a stack comprising ceramic layers and electrode layers interspersed among the ceramic layers, the electrode layers containing copper, the electrode layers comprising first and second internal electrodes, the method comprising:

applying first and second external contacts to different sides of the stack, the first and second external contacts containing copper, the first and second external contacts being substantially perpendicular to the ceramic layers and electrode layers,

wherein applying comprises debinding and sintering metal paste to form the first and second external contacts;

wherein debinding is performed at a temperature of less than or equal to 300° C  
in a nitrogen stream with water vapor;

wherein, at least during debinding, an oxygen partial pressure does not drop  
below a level of  $p_{\min}$ , at which ceramic contained in the ceramic layers begins degrade;

wherein the oxygen partial pressure does not exceed a level of  $p_{\max}$ , at which  
metallic copper will begin to oxidize;

wherein the first internal electrode is connected to the first external contact and the  
second internal electrode is connected to the second external contact, the first and second  
internal electrodes overlapping each other at a plane intersecting the stack,

wherein in areas adjacent to boundaries between the first and second external  
contacts and the ceramic layers, the first and second external contacts are not oxidized and  
material comprising the ceramic layers is not diminished, and

wherein a bonding strength of the external contacts to the stack exceeds 50N;

12. (Previously Presented) The method of claim 11,

wherein  $p_{\min}$  corresponds to an equilibrium point for Cu/Cu<sub>2</sub>O; and

wherein  $p_{\max}$  corresponds to an equilibrium point for Pb/PbO or Pb/PbTiO<sub>3</sub>.

13. (Currently Amended) The method of claim 11, wherein the metal paste ~~past~~  
contains copper at greater than 70 m%; and

wherein applying comprising using a glass flow and an organic binder.

14. (Previously Presented) The method of claim 13, wherein the organic binder comprises an acrylic resin binder.

15. (Previously Presented) The method according to claim 13, wherein the glass flow contains PbO and SiO<sub>2</sub>.

16. (Previously Presented) The method of claim 13, wherein applying further comprises firing the metal paste at a temperature between 700 and 860° C.

17. (Previously Presented) The method of claim 16, wherein debinding and firing the metal paste are performed using a copper base layer.

18. (Previously Presented) The method of claim 13, wherein the metal paste is applied via a screen printing process.

19. (Previously Presented) A method for producing a multilayer ceramic component with alternating ceramic layers and internal electrode layers, comprising:

- producing the ceramic layers using a ceramic mass; and
- producing the internal electrode layers using a metal paste that contains a portion of a chemically active additive;

wherein the chemically active additive reacts chemically with at least one environmental component other than a metal portion of the metal paste.

20. (Previously Presented) The method of claim 19, wherein the chemically active additive comprises a chemically active ceramic powder.

21. (Previously Presented) The method of claim 19, wherein the at least one environmental component comprises oxygen, at least one component of the ceramic mass, and a binder or solvent that is contained in the metal paste or the ceramic mass.

22. (Previously Presented) The method of claim 19, wherein the ceramic mass contains lead; and

wherein as a result of a chemical reaction between the chemically active additive and an environment, oxygen is released and/or Pb and/or Cu are bonded.

23. (Previously Presented) The method of claim 19, wherein the chemically active additive comprises at least one of (Zr, Ti)O<sub>2</sub>, MgO and BaO<sub>2</sub>.

24. (Previously Presented) The method of claim 19 wherein the metal paste contains a non-precious metal.

25. (Previously Presented) The method of claim 24, wherein the metal paste contains Cu or Ni.